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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/811,427	03/26/2004	Eric Hamilton	18602-08744 (P3257US1)	2639

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EXAMINER

RAO, ANAND SHASHIKANT

ART UNIT	PAPER NUMBER
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2621

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/811,427	Applicant(s) HAMILTON ET AL.	
	Examiner Andy S. Rao	Art Unit 2621	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 May 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-39 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-39 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response To Request For Reconsideration

1. Applicant's arguments filed on 5/14/08 with regards to claims 1-39 have been fully considered but they are not persuasive.
2. Claims 1-15 are rejected under 35 U.S.C. 102(e) as being anticipated by Hui, as was set forth in the Office Action of 12/14/07.
3. Claims 16-39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hui in view of Hurst, as was set forth in the Office Action of 12/14/07.
4. The Applicant presents seven arguments contending the Examiner's collective rejections of claims 1-15 under 35 U.S.C. 102(e) as being anticipated by Hui, and of claims 16-39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hui in view of Hurst, as was set forth in the Office Action of 12/14/07. However, after a careful consideration of the arguments presented, and further scrutiny of the applied references, the Examiner must respectfully disagree and maintain the grounds of rejection as for the reasons that follow.
5. After summarizing the salient features of claim 1 (Request for Reconsideration of 5/14/08: page 20, lines 8-24; page 21, lines 1-11), and providing the Applicants' interpretation of the primary Hui reference (Request for Reconsideration of 5/14/08: page 21, lines 12-20), the Applicants assert that Hui fails to disclose "...determining a buffer size..." because the citation of record discusses the use of a VBV buffer modeling scheme that models of a theoretical input buffer of an external decoder (Request for Reconsideration of 5/14/08: page 21, lines 21-24; page 22, lines 1-5), as in the claims. The Examiner respectfully disagrees. Firstly, even if the VBV buffer verifier is positioned as an input buffer for a decoder, it is in fact used to control the

Art Unit: 2621

function of the encoder (Hui: column 8, lines 30-35). Applicants own specification recognizes this fact, that the VBV buffer verifier is used to control encoder functionality (Specification: pages 37-38; paragraphs [0037]-[0038]). Furthermore, even though a buffer is claimed, *its displacement on the encoder itself is never positively recited*. Therefore, even a buffer external to both the encoder and the decoder, such as the modeled VBV buffer, still reads upon the limitation. In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., an encoder resident size variant buffer) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See In re Van Geuns, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). Even if the claims were amended to over the application of a VBV modeling buffer, the Examiner notes that the disclosed encoder side output buffer would still appear to read upon the limitation (Hui: column 8, lines 60-65). Hui would size the output buffer according to the control strategy set up by the VBV buffer verifier model. Applicant's own claimed language stipulates that the buffer is a VBV buffer and operates in the exact same fashion as in the reference (See claim 5). So it is patently unclear to the Examiner how the Applicants could have arrived at the conclusion that Hui's VBV virtual buffer model is somehow different from the claimed buffer of instant invention. It is duly noted that Hui does disclose the VBV buffer does execute a "...determining a buffer size..." step (Hui: column 9, lines 30-40: virtual buffer fullness values used to establish a desired capacity) with set upper and lower limits (Hui: column 7, lines 55-60: underflow and overflow conditions) including the target bit rates (Hui: column 7, lines 19-20) and a length of a

Art Unit: 2621

video sequence (Hui: column 7, lines 33-37: Number of pictures in the GOP). Accordingly, the Examiner maintains that the limitation is firmly met.

Secondly, the Applicants argue that Hui fails to disclose "...determining a quant to encode a frame being a function of at least of the buffer fullness... as in the claims, and buttresses this argument by accurately noting that Hui discloses the determination of quantization step sizes based on QS_{target} and $QS_{average}$ which appear to not rely upon a buffer fullness variable (Request for Reconsideration of 5/14/08: page 22, lines 6-15). The Examiner respectfully disagrees. Hui discloses that both QS_{target} and $QS_{average}$ variables are generated from a scaled version of a QS_{ref} parameter (Hui: column 9, lines 38-47) which is dependent upon a buffer fullness variable (Hui: column 9, lines 25-32: $D_{I,P,B}$). Accordingly, the Examiner maintains that the limitation is remains met.

Furthermore, the Applicants argue with respect to the features of claim 6, Hui fails to particularly address the features of a base quantization envelope (i.e. a normalized running average of the quantizers used to encode frames of a particular type), ratio information, a frame complexity variable, and base quantization envelope control, wherein all used in the initialization process (Request for Reconsideration of 5/14/08: page 22, lines 18-24; page 23, lines 1-3), as in the claims. The Examiner would respectfully disagree. It is noted that the base quantization envelope control as being described by the Applicants as a normalized running average of the quantizers used to encode frames of that type appears to be by Hui's disclosure of step (c) of the bit allocation process (Hui: column 11, lines 25-27), with the normalization coming from the frame interval processing. The ratio information without further clarifying what that entails in the language of the claims is met by the K_B and K_P constants (Hui: column 10, lines 1-3: both frame

Art Unit: 2621

specific ratios). The frame complexity measurement is met by the reference's discussion of a frame complexity measurements used in the bit allocation process (Hui: column 7, lines 10-15: X_I , X_P , and X_B). The base quantization envelope control (i.e. controlling the variation in the base quantization envelope) is met by the references usage of activity based scaling (Hui: column 9, lines 35-45). Accordingly, based on the discussion above, and without further mathematical clarification of the limitation as in the claims, the Examiner maintains that the limitation is met.

After summarizing the Examiner's combination of Hui with Hurst (Request for Reconsideration of 5/14/08: page 23, lines 8-13), the Applicant argues that Hui doesn't disclose the implementation of a computer system with executing the method of instant invention as discussed above (Request for Reconsideration of 5/14/08: page 23, lines 14-203). The Examiner respectfully disagrees. In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). In particular, Hui doesn't have to show a computer system as it meets that limitation by its combination with Hurst. All it has to address are the features of the method of the instant invention which as pointed out above, Hui clearly addresses.

Additionally, the Applicants argue that Hui's coding method cannot be implemented by Hurst and augment this stance with a detailed analysis of the secondary reference (Request for Reconsideration of 5/14/08: page 23, lines 21-23; page 24, lines 1-11). The Examiner respectfully disagrees. In response to applicant's argument that Hui cannot be implemented by Hurst, the test for obviousness is not whether the features of a secondary reference may be bodily

Art Unit: 2621

incorporated into the structure of the primary reference; nor is it that the claimed invention must be expressly suggested in any one or all of the references. Rather, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981). In this case, the Examiner notes that in one of ordinary skill in the art would see a computer system for implementation of a transcoding method in Hurst, said transcoding method being reasonably pertinent and similar in the use of a VBV modeling application to the transcoding method of the Hui reference, and translate the computer system implementation of Hurst to the Hui method. Accordingly, the Examiner maintains that the combination is properly combinable.

Furthermore, the Applicants argue the Hui-Hurst combination fails to be viable since the former operates upon “raw” video while the Hurst operates on already encoded video data (Request for Reconsideration of 5/14/08: page 24, lines 12-23; page 25, lines 1-6). The Examiner respectfully disagrees. The Examiner takes with the Applicants position that one of ordinary skill in the art would only infer that “...a sequence of video pictures...” corresponds to “raw” video data. This is not true, especially when one of ordinary skill in the art looks to the primary reference which clearly discloses that a sequence of video pictures could come from retrieval of already compressed picture sequences (Hui: column 2, lines 45-55) in addition to the live generation of picture sequences (Hui: column 5, lines 10-20). In the case where Hui's input sequences are derived from compressed DVD storage, clearly Hurst remains applicable. Accordingly, the Examiner maintains that combination is viable and is proper under MPEP 2143.01(V).

Art Unit: 2621

Lastly, with regards to the Applicant's remarks concerning the Lightstone reference, the (Request for Reconsideration of 5/14/08: page 25, lines 13-22; page 26, lines 1-24), while the summary of the teaching is accurate (Request for Reconsideration of 5/14/08: page 25, lines 15-22; page 26, lines 1-2), and the distinctions from the instant invention are duly noted (Request for Reconsideration of 5/14/08: page 26, lines 3-22), the Examiner directed the Applicants attention to Lightstone show in greater detail how the use of a VBV buffer model has buffer sizing determination of a general nature and subsequent application for quantization because it appeared that during previous stages of prosecution this appeared to a clear misconception of the Applicants part. It doesn't appear the Examiner that this problem has been resolved especially since the Examiner has pointed out the reliance of a VBV buffer in the Specification of the instant invention and accompanying claims while the Applicants have continually maintained a distinction over such an interpretation. Lightstone has not been used in the rejection or record and only remains literature pertinent to the same field of endeavor.

Conclusion

6. The **THIS ACTION IS MADE FINAL**. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37

Art Unit: 2621

CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andy S. Rao whose telephone number is (571)-272-7337. The examiner can normally be reached on Monday-Friday 8 hours.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mehrdad Dastouri can be reached on (571)-272-7418. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Andy S. Rao
Primary Examiner
Art Unit 2621

asr
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Primary Examiner, Art Unit 2621
August 13, 2008